

WHAT IS CLAIMED IS:

1. A coating composition comprising:
  - (a) at least one component selected from the group consisting of an organosilane represented by the following general formula (1), a hydrolyzate of said organosilane and a condensates of said organosilane;
  - (b) an organosiloxane oligomer having an SiO bond and a weight average molecular weight of 300 to 100,000;
  - (c) a photocatalyst; and
- 10 (d-1) an organic solvent having a surface tension at 20°C of 260  $\mu$ N/cm or less:

$$(R^1)_nSi(OR^2)_{4-n} \quad (1)$$

wherein,  $R^1$ , which may be the same or different when two or more  $R^1$  groups are present, represents a monovalent organic group having 1 to 10 carbon atoms;  $R^2$ , which may be the same or different when two or more  $R^2$  groups are present, represents an alkyl group having 1 to 5 carbon atoms or an acyl group having 1 to 6 carbon atoms; and  $n$  is an integer ranging from 0 to 2.

- 15 2. The coating composition according to claim 1, which further comprises (e) a polymer containing a silyl group having a silicon atom bound to a hydrolytic group and/or a hydroxyl group.
- 20 3. The coating composition according to claim 1 or 2, wherein said component (a) is (a-1) at least one component selected from the group consisting of an organosilane

represented by general formula (1) (wherein n is 1 or 2, and at least one of R<sup>1</sup> groups is an epoxy group-containing substituted derivative), a hydrolyzate of said organosilane and a condensate of said organosilane; and

5 (a-2) at least one component selected from the group consisting of an organosilane represented by general formula (1) (wherein no epoxy group is contained in R<sup>1</sup>), a hydrolyzate of said organosilane and a condensate of said organosilane.

4. The coating composition according to any one of claims  
10 1 to 3, wherein said component (b) has a group represented by general formula -(RO)<sub>p</sub>-(R'O)<sub>q</sub>-R" (wherein R and R', which may be the same or different, represent alkyl groups each having 1 to 5 carbon atoms, R" represents a hydrogen atom or an alkyl group having 1 to 5 carbon atoms, and p+q is from 2 to 30), and  
15 a silyl group having a silicon atom bound to a hydrolytic group and/or a hydroxyl group.

5. A method for producing a coating composition which comprises hydrolyzing and/or condensing at least one selected from the group consisting of:

20 (a) an organosilane represented by the following general formula (1);

(b) an organosiloxane oligomer having an SiO bond and a weight average molecular weight of 300 to 100,000; and

25 (c) a polymer containing a silyl group having a silicon atom bound to a hydrolytic group and/or a hydroxyl group, in

the presence of (c') an aqueous dispersion of a photocatalyst having a pH of 3 to 9 and (d') an organic solvent in which the content of an organic solvent having a surface tension at 20°C of more than 260  $\mu$ N/cm is 20% by weight or less based on the

5 whole organic solvent;



wherein,  $R^1$ , which may be the same or different when two or more  $R^1$  groups are present, represents a monovalent organic group having 1 to 10 carbon atoms;  $R^2$ , which may be the same

10 or different when two or more  $R^2$  groups are present, represents an alkyl group having 1 to 5 carbon atoms or an acyl group having 1 to 6 carbon atoms; and  $n$  is an integer ranging from 0 to 2.

6. The method according to claim 5, wherein said component (a) is (a-1) at least one component selected from the 15 group consisting of an organosilane represented by general formula (1) (wherein  $n$  is 1 or 2, and at least one of  $R^1$  groups is an epoxy group-containing substituted derivative), a hydrolyzate of said organosilane and a condensate of said organosilane; or

20 (a-2) at least one component selected from the group consisting of an organosilane represented by general formula (1) (wherein no epoxy group is contained in  $R^1$ ), a hydrolyzate of said organosilane and a condensate of said organosilane.

7. A cured product obtained by coating and drying the 25 coating composition according to any one of claims 1 to 4, or

the composition obtained by the method according to claim 5 or 6.

8. A cured product having a dry coating layer comprising any one of the following undercoating compositions (i) to (iv), 5 and having thereon a dry coating layer comprising the coating composition according to any one of claims 1 to 4, or the coating composition obtained by the method according to claim 5 or 6:

(i) An undercoating composition containing said components (a) and (e);

10 (ii) An undercoating composition containing said components (a) and (e), and (f) colloidal silica and/or colloidal alumina;

15 (iii) An undercoating composition containing said components (a) and (e), and (g) colloidal cerium oxide and/or colloidal zinc oxide; and

(iv) An undercoating composition containing said components (a), (e), (f) and (g).

9. A coating film having a dry coating layer comprising any one of the undercoating compositions (i) to (iv) specified 20 in claim 8, and having thereon a dry coating layer comprising the coating composition according to any one of claims 1 to 4, or the coating composition obtained by the method according to claim 5 or 6.